The Baseline Data ToolKit

Documenting Your Starting Point Statistically

Introduction

"Reengineering", says guru Michael Hammer, "is the fundamental rethinking and radical redesign of work processes to achieve dramatic improvements in productivity". In a safety-net healthcare organization, productivity is typically very low and for a good reason: Our ways of working (and of working together) are often obsolete.

This vehicle for redesigning work processes is the redesign team and managers. And the fuel that keeps us all charged up about redesign is the sure knowledge that we are making great progress. The way we know we are making great progress is to compare our redesign model tests to our "baseline data", i.e. the snapshot of our starting position. This advisory guides you in gathering this very important data.

Cycle Time

Cycle time is the total elapsed time between the moment when the patient enters your facility to the time the patient leaves your facility. This is a tough definition of cycle time. Cycle time has nothing to do with a patient's appointment time. Cycle time starts when the patient enters your facility even if he/she shows up an hour early.

So you need to carefully measure what the cycle time is for the current visit process (The Old Way). Previous to this, you've tracked and mapped 10 patient visits. Couldn't you simply use that data to gauge the baseline? No. Why not? The sample size is far too small to give you confident statistics.

Gathering Baseline Cycle Time Data

To determine your average current patient visit cycle time, follow the steps below.

1. Schedule your *Baseline Data Week* in your calendars. This is the week during which you will gather your benchmark data. The week should be free of holidays and should be normal with respect to the number of staff on vacation.

2. *Plan for Sufficient Sample Size.* You will need to gather the equivalent of two full days of clinic patient visit data for a primary care clinic. If your clinic operates five days a week, then plan to gather data from four half-day sessions as follows:

- ■ Monday Afternoon
- ■ Wednesday Morning
- ■ Thursday Afternoon
- ■ Friday Morning.
- ■ Friday Afternoon.

If you can't do one of the above sessions because it is a normal meeting time for all staff, for example, you'll need to devise a different schedule.

3. *Gather the Right Data.* Third, now that we know WHEN we will gather our cycle time data, let's talk about exactly what we are tracking. **For this benchmark data, we do NOT have to track patients laboriously as we did for the tracking exercise.** We are interested ONLY in the total amount of time the patient spent under the roof to complete a visit in its entirety…from the time s/he entered your facility until the time they left it. Each facility has its own peculiarities, so you'll have to design your own tracking process to make sure you record good start and end times for each visit.

4. *Calculate Carefully.* We are looking for the *average cycle time* of all patient visits over the course of four clinic sessions. Once you have your start and end times for the patient visits, you need to calculate the total elapsed time for each visit. Then add all elapsed times for all visits tracked and divide by the total number of visits tracked. This will give you a fairly reliable average cycle time. Don't rush through these calculations. Make sure your work is of the highest quality.

    CAVEAT: Do NOT average each session and then take the average of the sessions (i.e., don't add up the averages of the four sessions and then divide by four). This will not give a true average. Rather, add up all visits from all four sessions and divide by the total number of visits from all four sessions.

Gathering Baseline Productivity

You know from personal experience that if you change the way you do something, you get different results. It doesn't matter if we are talking about work, cooking, raising a family, washing the car, or grocery shopping. Do it one way and it takes a certain amount of time. Do it another way and it takes a different amount of time. And, if it takes less time, we say we were more efficient. And because we were more time efficient with one task, it means we had some "extra" time to do something else. And because we did something else, we say we were "more productive". In other words, we did more in the same amount of time than we did the last time. That's because we discovered a better, more efficient way to get the job done.

Typically, *productivity* in a safety net health care organization is a much hated word. That's because usually the clinicians are beaten senseless by unnamed others to "increase

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your productivity". But redesigners know that "productivity is what we accomplish collectively" and that is the direct outcome of HOW we do our work. So, in redesign we see productivity soar without a lot of fanfare because in our quest to reduce cycle time, we clear a lot of the clutter out of the work process and we work much more effectively in teams.

Just as in the case of cycle time, we won't know how much progress we are making during the redesign journey unless we know what our productivity is now, so we need to gather that data at the same time we are gathering the cycle time data.

1. *Timing and Sample Size.* Gather your productivity during the same time you are gathering cycle time data.

2. *Gather the Right Productivity Data.* We are going to track productivity by provider because that's how your current system tracks information. We are still going to consider the encounter as the unit of productivity. We know that's a somewhat controversial method, but it's actually a pretty good indicator.

3. We are going to focus on *productivity per hour* because that statistic is hugely affected by work process design. And we're going to avoid THE COMMON MISTAKE. What's that? The mistaken way of calculating productivity is to look at the session schedule of a particular provider—say it runs four hours from 1:00 pm to 5:00—and then divide the total number of encounters seen by this provider during this session by four.

4. Let's say the provider saw eight patients. Divide eight by the number of SCHEDULED session hours (four) and you get a productivity rate of 2.0 patients per hour. What's wrong with this picture? It assumes the clinician did all of the work associated with the patients seen between the hours of 1:00 and 5:00. But, in fact, often it's impossible to complete the work during the scheduled session given the inefficiency of current ways of working. So, medical charts, for example, are left until the end of the day for charting.

5. Well, what what's the alternative? The alternative is to simply count the ACTUAL number of hours the provider spent doing the work RELATING TO THE ENCOUNTERS OF THAT SESSION AND COMPLETED WITHIN THAT DAY.

6. So, let's say we are measuring productivity in the afternoon session. But that morning, the clinic session ran until 12:30 instead of ending on schedule at noon. The provider now rushes through a lunch till 1:10 and realizes there are important phone messages that just have to be dealt with now. So, she begins the afternoon session at 1:30. For the purposes of measuring productivity the clock starts at 1:30, not 1:00 when the first patients was scheduled.

7. Similarly, if the clinic session schedule "stopped" at 5:00 pm, but the clinician was seeing her next-to-last patient at that time, then she saw the last patient from 5:20 to 5:40, and then dictated charts relating to the afternoon visits until 7:00

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before finally going home, then the provider was "in session" from 1:30-7:00, or 5.5 hours. So, if she saw eight patients during the afternoon session, her productivity per hour was 1.45 patients per hour.

8. Final Computations. Track the number of encounters and total provider hours for each clinician for each of four clinic sessions. Then tally up the total encounters from the four tracked clinic sessions to get a grand total. Now add up all the provider hours for the four clinic sessions to get the grand total of provider hours. Now divide the total encounters by the total provider hours to get the average provider productivity per hour.

9. Use the worksheet on the following page to record your information.

Baseline (Pre-Redesign) Data Sheet

Your Organization's Name: _____

Site or area to be redesigned: _____

At our clinic site, *typical* patient visits include the following services:
(Check all that apply)

- ❏ **Laboratory**
- ❏ **Pharmacy**
- ❏ **Radiology**
- ❏ **Other** _____
- ❏ **Other** _____
- ❏ **Other** _____

Baseline (Pre-Redesign) Data Sheet

Data Element	Pre-Redesign Average from Four Sessions
Cycle Time Average cycle time (in minutes) for all patient visits to the clinic.	_____ Minutes
Productivity Total number of patients seen for a given day divided by total provider hours *worked* (as opposed to hours scheduled). Hours *worked* includes all work (e.g., charting, huddles, referrals, etc.) directly related to the patient visits completed that day.	_____ Patients per hour per provider